

Ecotox Report for Case # P-17-0119

General

Status 02/27/2019 Date: SAT Date: 07/07/2017	Report Status: Complete CRSS Date: 07/06/2017 SAT Legacy Chair: Placeholder Consolidated Set:
Consolidated N PMN: Ecotox No Related Cases: suitable analogs found. Health NONE Related Cases: Submitter:	
CAS Number: Chemical Name:	
Use: Binder resin for	
	There are STN references for use of the substance in
Trade Name:	
PV-max(kg/yr):	Ecotox Kennedy, Assessor: Amuel

Fate Summary Statement

Fate P-17-0119
Summary
Statement: FATE: MW = with < 500 and < 1000

BP > 400 °C (E)
H < 1.00E-8 (E)

POTW removal

(%) = PMN 90 via hydrolysis and sorption; then Hyd Pdt 90 via sorption

Time for complete ultimate aerobic biodeg = PMN > mo; Hyd Pdt > mo

Sorption to soils/sediments = PMN v.strong; Hyd Pdt v.strong

PBT Potential: PMN P1B1; Hyd Pdt P3B1

*CEB FATE: Migration to

ground water = PMN negl; Hyd Pdt negl

PMN Material:

Overall

wastewater treatment removal is 90% via hydrolysis and sorption.

Sorption to sludge is strong based on high molecular volume.

Air

Stripping (Volatilization to air) is negligible based on high molecular volume.

Removal by biodegradation in wastewater treatment is negligible based on high molecular volume.

The aerobic aquatic

biodegradation half-life is greater than months based on high molecular volume.

The anaerobic aquatic biodegradation half-life is greater

than months based on the aerobic biodegradation half-life. The anaerobic biodegradation half-life is projected to be greater than or equal to the aerobic biodegradation half-life.

Sorption to soil and sediment is very strong based on high molecular volume.

Migration to groundwater is negligible based on high molecular volume.

PMN Material:

Low Persistence (P1) is

based on slow hydrolysis (hydrolysis half-life: weeks).

Low

Bioaccumulation potential (B1) is based on slow hydrolysis (hydrolysis half-life: weeks).

Hydrolysis Product:

Overall wastewater

treatment removal is 90% via sorption.

Sorption to sludge is strong

based on high molecular volume.

Air Stripping (Volatilization to

air) is negligible based on high molecular volume.

Removal by biodegradation in wastewater treatment is negligible based on high molecular volume.

The aerobic aquatic biodegradation half-life is greater than months based on high molecular volume.

The anaerobic aquatic biodegradation half-life is greater than months based on the aerobic biodegradation half-life. The anaerobic biodegradation half-life is projected to be greater than or equal to the aerobic biodegradation half-life.

Sorption to soil and sediment is very strong based on high molecular volume.

Migration to groundwater is negligible based on high molecular volume.

Hydrolysis Product:
High Persistence (P3) is based on the anaerobic biodegradation half-life and high molecular volume.

Low Bioaccumulation potential (B1) is based on high molecular volume.

Bioconcentration/Bioaccumulation factor to be put into E-Fast:
N/A

Physical Chemical Information

Molecular Weight:	██████████	
Wt% < 500:	██████	Wt% < 1000: ██████
Physical State - Neat:	██████	
Melting Point:		Melting Point (est):
MP (EPI):		
Vapor Pressure:		Vapor Pressure (est): <0.000001
VP (EPI):		
Water Solubility:		Water Solubility (est): <0.000001/Reacts slowly
Water Solubility (EPI):		
Henry's Law::		
Log Koc:		Log Koc (EPI):
Log Kow:		Log Kow (EPI):

<p>Log</p> <p>Kow Comment:</p>
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SAT

Concern Level

<p>Ecotox 1</p> <p>Rating (1):</p> <p>Ecotox</p> <p>Rating Comment</p> <p>(1):</p> <p>Ecotox Rating</p> <p>(2):</p> <p>Ecotox</p> <p>Rating Comment</p> <p>(2):</p> <p>Ecotox Route of No releases to</p> <p>Exposure: water</p>
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Ecotox Comments

<p>Exposure N</p> <p>Based Review</p> <p>(Eco):</p> <p>Ecotox</p> <p>Comments:</p> <p>Exposure Based</p> <p>Testing:</p>

PBT Ratings

Persistence	Bioaccumulation	Toxicity	Comments
1	1	2	PMN
3	1	2	Hyd Pdt

Eco-Toxicity Comment:

Fate Ratings

<p>Removal90;90</p> <p>in WWT/POTW</p> <p>(Overall):</p> <p>Condition</p> <p>Rating</p> <p>Values 1 2 3 4</p> <p>Rating Description</p> <p>Comment</p>
<p>Fish BCF:</p>

Removal90;90 in WWT/POTW (Overall):					Comment
Condition	Rating Values	1	2	Rating Description 3	
				4	
<p>available for this case.</p> <p>Fate PMN Material:</p> <p>Comments: Overall wastewater treatment removal is 90% via hydrolysis and sorption.</p> <p>Sorption to sludge is strong based on high molecular volume.</p> <p>Air Stripping (Volatilization to air) is negligible based on high molecular volume.</p> <p>Removal by biodegradation in wastewater treatment is negligible based on high molecular volume.</p> <p>The aerobic aquatic biodegradation half-life is greater than months based on high molecular volume.</p> <p>The anaerobic aquatic biodegradation half-life is greater than months based on the aerobic biodegradation half-life. The anaerobic biodegradation half-life is projected to be greater than or equal to the aerobic biodegradation half-life.</p> <p>Sorption to soil and sediment is very strong based on high molecular volume.</p> <p>Migration to groundwater is negligible based on high molecular volume.</p> <p>PMN Material: Low Persistence (P1) is based on slow hydrolysis (hydrolysis half-life: weeks).</p> <p>Low Bioaccumulation potential (B1) is based on slow hydrolysis (hydrolysis half-life: weeks).</p> <p>Hydrolysis Product: Overall wastewater treatment removal is 90% via sorption.</p> <p>Sorption to sludge is strong based on high molecular volume.</p> <p>Air Stripping (Volatilization to air) is negligible based on high molecular volume.</p> <p>Removal by biodegradation in wastewater treatment is negligible based on high molecular volume.</p> <p>The aerobic aquatic biodegradation half-life is</p>					

Removal90;90 in WWT/POTW (Overall):					Comment
Condition	Rating Values	1	2	Rating Description 3	
				4	
					<p>greater than months based on high molecular volume.</p> <p>The anaerobic aquatic biodegradation half-life is greater than months based on the aerobic biodegradation half-life. The anaerobic biodegradation half-life is projected to be greater than or equal to the aerobic biodegradation half-life.</p> <p>Sorption to soil and sediment is very strong based on high molecular volume.</p> <p>Migration to groundwater is negligible based on high molecular volume.</p> <p>Hydrolysis Product: High Persistence (P3) is based on the anaerobic biodegradation half-life and high molecular volume.</p> <p>Low Bioaccumulation potential (B1) is based on high molecular volume.</p> <p>Bioconcentration/Bioaccumulation factor to be put into E-Fast: N/A</p>

Ecotoxicity Values

Test organism	Test Type	Test Endpoint	Predicted	Experimental	Comments
Fish	96-h	LC50	*		Toxicity predictions are based on the negligible water solubility of P-17-0119 (insoluble nonionic polymer); * = no effects at saturation
Daphnid	48-h	LC50	*		Toxicity predictions are based on the negligible water solubility of P-17-0119

Test organism	Test Type	Test Endpoint	Predicted	Experimental Comments
Green Algae	96-h	EC50	*	(insoluble nonionic polymer); * = no effects at saturation Toxicity predictions are based on the negligible water solubility of P-17-0119
Fish	-	Chronic Value	*	(insoluble nonionic polymer); * = no effects at saturation Toxicity predictions are based on the negligible water solubility of P-17-0119
Daphnid	-	Chronic Value	*	(insoluble nonionic polymer); * = no effects at saturation Toxicity predictions are based on the negligible water solubility of P-17-0119
Green Algae	-	Chronic Value	*	(insoluble nonionic polymer); * = no effects at saturation Toxicity predictions are based on the negligible water solubility of P-17-0119

Test organism	Test Type	Test Endpoint	Predicted	Experimental Comments
Ecotox Value Toxicity predictions are based on the negligible water solubility of P-17-0119 (insoluble nonionic polymer); MW [REDACTED] with [REDACTED] <500, [REDACTED] <1000; solid with an unknown mp (P); S=<0.000001/Reacts slowly; effective concentrations based on 100% active ingredients and nominal concentrations; hardness <150 mg/L as CaCO3; and TOC <2.0 mg/L.				(insoluble nonionic polymer); * = no effects at saturation

Ecotox Factors

Factors	Most Sensitive Endpoint	Assessment Factor	CoC	Comment
Acute Aquatic (ppb):				Because hazards are not expected up to the water solubility limit, acute and chronic concentrations of concern are not identified.
Chronic Aquatic (ppb):				Because hazards are not expected up to the water solubility limit, acute and chronic concentrations of concern are not identified.

Factors	Values	Comments
SARs: Nonionic Polymers SAR Class: Nonionic Polymers TSCA NCC Category?	Alkoxysilanes	

Recommended Testing: Ecotox Factors Environmental Comments: Hazard: Environmental hazard is relevant to whether a new chemical

substance is likely to present unreasonable risk because the significance of the risk is dependent upon both the hazard (or toxicity) of the chemical substance and the extent of exposure to the substance. EPA estimated environmental hazard of this new chemical substance using predictions based on the negligible water solubility of P-17-0119 (insoluble nonionic polymer; MW [REDACTED] with [REDACTED] <500, [REDACTED] <1000). Acute and chronic toxicity values estimated for fish, aquatic invertebrates, and algae are all no effects at saturation. These toxicity values indicate that the new chemical substance is expected to have low environmental hazard. Because hazards are not expected up to the water solubility limit, acute and chronic concentrations of concern are not identified.

Environmental Risk: Risks to the environment from acute and chronic exposure are not expected at any concentration of the new chemical substance soluble in the water (i.e., no effects at saturation).

Comments/Telephone

Log

Artifact	Update/Upload Time
[REDACTED]	[REDACTED]